

its rising and falling from the fact that there are stretches of country uninjured but for a few fallen trees. Up in the air 100 feet or so it appeared to be full of limbs of trees, doors, shingles, and other débris. According to eyewitnesses, it whirled around in the direction of the hands of a watch.

Mr. Clarence J. Root, section director, Springfield, Ill., says:

Many of the numerous thunderstorms during the month were very severe, and reports of fire and damage by lightning were received from many places in the central and northern parts of the State. Barns and stock were destroyed and some houses damaged, and electric service was crippled in some cases. No direct fatalities were reported. In some places severe wind squalls accompanied the storms, blowing down corn, injuring fruit, and damaging buildings and shade trees. A severe storm occurred in the vicinity of Springfield on the 6th. The most severe storm of the month is believed to be the one that visited Springfield and Sangamon County on the 13th. It is thought that the worst of this storm was confined to Sangamon County, because the damage in Macon and Christian Counties was much less and no damage was reported in other border counties.

Following are reports of the storms that occurred at Springfield, Ill., on the 6th and 13th:

SEVERE WIND STORMS AT SPRINGFIELD, ILL.

STORM OF SEPTEMBER 6, 1911.

By J. C. JENSEN, Assistant Observer.

A severe local rain and wind storm, during which the wind attained a maximum velocity, for a five-minute period, of 48, and an extreme velocity of 58 miles an hour, passed over the city between 10 and 11 p. m. This velocity equals the station record and is the highest since April 26, 1902, when a maximum velocity of 48 miles an hour was recorded.

Although not confined to any specific portion of the city, the storm seems to have been the most severe in the west and central parts.

Numerous plate-glass windows were blown in, signs and cornices torn from their moorings, and trees and small buildings blown over or demolished. The streets in all parts of the city were strewn with large branches, whole trees, and débris of various kinds, to the extent of obstructing street-car and other traffic at some points. Telephone and electric light and transit wires suffered severely from broken poles and falling trees. A large tent near the center of the city was blown down. In addition to the plate glass, many windows in the residence districts were broken either directly by the force of the wind or by flying débris. A horse was reported killed by lightning east of the city.

In the country considerable fruit was blown from the trees but the damage to corn was not important. The loss in Springfield and vicinity is conservatively estimated at \$10,000.

STORM OF SEPTEMBER 13, 1911.

By CLARENCE J. ROOT, Section Director.

Early on the morning of September 13, 1911, a severe windstorm visited Springfield and Sangamon County, and its influence was felt in some of the neighboring counties. The wind accompanied a thunderstorm that moved from the northwest. A moderate squall occurred at 1.35 a. m. A second squall was severe from 4.06 to 4.11 a. m., with a maximum wind velocity of 46 miles and an extreme velocity of 50, both from the northeast. The third and most severe storm lasted from 4.50 to 5 a. m. The maximum wind velocity for five minutes was 46 miles, but from 4.54 to 4.56 a. m. 2 miles were recorded at a high rate, the velocity of the faster mile being at the rate of 61 miles per hour, beginning at 4.54 a. m. Undoubtedly

there were short puffs of wind at a much higher velocity. The direction had been varying between east and northeast, but at 4.49 it changed to northwest. At 4.55 a. m., in the middle of the highest wind it returned to northeast. The record maximum for the station is 48 miles, made September 6, 1911, and other dates. The barometer rose suddenly 0.20 inch during the last squall but fell the full amount in a few minutes.

While nearly all parts of the city suffered, the area of greatest destruction occupied the territory bounded by the B. & O. R. R. and the business district on the north, Eighth Street on the east, South Grand Avenue on the south, and West Grand Avenue on the west, except that there was very little damage done in Washington Park. This territory embraces a little more than a square mile. Considerable damage occurred locally at a number of other places. In the north and east parts of the city the effects of the storm were less marked and but little damage resulted.

It is not thought that the storm was of a tornadic nature. No single storm cloud was observed, but one witness states that the sky was overcast with a seething, rolling, mass that had the appearance of boiling. Another witness describes the clouds in the same manner and states further that these clouds were moving from the northwest, and that during the highest wind, when the trees and limbs were crashing down, the clouds suddenly reversed their direction, blowing from the southeast. When the clouds came together they had the appearance of water waves striking a pier. It is thought that this occurred at the time of change in wind direction as mentioned above. While trees fell in all directions, the general direction in all parts of the city was toward the southeast. In some cases the trees in a single yard lay in several directions.

The storm of September 6 was pronounced by old residents to be the worst wind storm in the history of the city, but compared with the later storm it was of minor importance.

The greatest single loss was the damage to the Illinois State Capitol Building. Two sections of the copper roofing on the dome were ruined and a large part of the main building lost its copper roof. Large sheets, 50 to 75 feet long, were ripped from the roof and dome, crinkled up like paper and hurled to the ground. The loss was \$25,000. A small concrete plant on Jefferson Street, part of which was used as a dwelling, was destroyed and the occupants had a narrow escape. The second story of a house across the street was crushed by flying timbers. Among the other important losses are the following: Sattley Plow Works, wall of warehouse blown down, loss \$2,500; State Fair Grounds, loss \$5,000; north wall of boiler works; the back of the three-story building occupied by the Capital City Garage was blown 18 inches out of plumb; at the West End coal shaft an 80-foot stack fell on the engine house, destroying it. Hundreds of business houses and residences were more or less damaged, some by wind and others by falling trees and limbs. The injuries were in most cases of a minor character. Many signs, billboards, and windows were damaged or destroyed, and a number of business houses suffered from the rain entering through the broken windows and roofs.

The most notable feature of the storm was the damage to the city's shade trees. Springfield is noted for its beautiful trees, especially throughout the district most affected by the storm. Hundreds of trees were either broken off or uprooted, and thousands were partially or entirely stripped of limbs and branches. In many places the streets were impassable. Nearly every yard in the

region of greatest destruction showed the effects of the storm. A number of large trees were destroyed in Lincoln Park in the first storm, and a few more were lost in the second one, but Washington Park escaped with but little loss.

The trees in falling carried down electric wires, which in turn often broke or bent the supporting poles. - No cars were run on the street railway or interurban lines until 9 a. m., and complete service was not resumed until afternoon. In many cases there was no electric-light service for several days. The loss to the above-mentioned services was \$5,000, confined entirely to poles and wires, but this amount does not include the loss of business. The Interstate Telephone Co. had 400 lines down in the city, and the loss to the Central Union Telephone Co. amounted to four or five thousand dollars. A number of days were required to restore telephone service on all lines. The telegraph companies suffered some losses also.

The newspapers reported damage from wind in a number of central Illinois towns. In the rural districts in this county haystacks and outbuildings were damaged or destroyed, and in some cases houses and barns were moved from their foundations. The farmers suffered most from damage to corn and fruit, the greatest loss occurring in the east and south parts of the county,

while in portions of the north and west ends the damage was slight. The region of destruction also extends westward from Springfield to Farmingdale, 10 miles distant, immediately beyond which there is little damage. However, in all parts of the county the loss seems to be in spots, some localities suffering but little. A great deal of corn has been prostrated, as much as three-fourths being down in some fields. A prominent farmer at Rochester estimates the corn loss in that neighborhood as high as 25 per cent. The apple and peach trees were heavily laden this year. A great deal of the unpicked fruit was blown from the trees, and in many places they were nearly stripped. The loss to the agricultural interests will be heavy.

No fatalities occurred in Springfield and no one was seriously injured. This was due to the fact that the streets were deserted at so early an hour. Two linemen at Edinburg were electrocuted during the day while repairing wires. No other deaths or injuries were reported in any of the storm-swept region.

The newspapers estimate the loss for Springfield and vicinity at \$250,000, and for central Illinois at nearly a million dollars, but it is thought that these figures are too high. These estimates take no account of the damage and destruction of shade trees, a loss that can not be given a money value.